

WHAT IS CLAIMED IS:

1. A paper or paperboard comprising a paper web that comprises cellulosic fibers starch and a boron-containing compound.
- 2 The paper or paperboard of Claim 1 a paper web comprising cellulosic fibers and having a sizing applied to the paper web, the sizing comprising starch solids and a boron-containing compound.
3. The paper or paperboard of Claim 1 wherein the major portion of the boron-containing compound and the starch is at or near the surfaces of said web.
4. The paper or paperboard of Claim 1 wherein the major portion of the boron-containing compound and the starch is distributed throughout said web.
5. The paper or paperboard of Claim 1 wherein the amount of starch is equal to or less than about 200 lbs per ton of fiber.
6. The paper or paperboard of Claim 1 wherein the amount of boron containing compound is equal to or less than about 7% by weight of the starch.
7. The paper or paperboard of Claim 1 wherein the boron-containing compound is selected from the group consisting of boric acid and borate metal salts.
8. The paper or paperboard of Claim 7 wherein the boron-containing compound is selected from the group consisting of boric acid, borax, and zinc borate.
9. The paper or paperboard of Claim 1 wherein the boron-containing compound and the starch form a complex.
10. The paper or paperboard of Claim 1 wherein the starch is an anionic starch.
11. The paper or paperboard of Claim 1 wherein the starch is a cationic starch.
12. The paper or paperboard of Claim 1 wherein the starch is an amphipathic starch.
13. The paper or paperboard of Claim 1 wherein the starch is selected from the group consisting of corn starch, wheat starch, potato starch, rice starch, tapioca starch, and sago starch.
14. A method for forming a paper or paperboard comprising:
providing a papermaking furnish comprising cellulosic fibers, starch and a boron-containing;
forming a fibrous web from the papermaking furnish; and drying the web
15. The method of Claim 14 further comprising calendering the web to provide a finished paper or paperboard.

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16. The method of Claim 14 which further comprises mixing converted starch and at least a portion of the boron-containing compound to provide a slurry and adding the slurry to a cellulosic fiber furnish to provide the papermaking furnish.

17. The method of Claim 14 which further comprises mixing unconverted starch and at least a portion of the boron-containing compound to provide a slurry, cooking the slurry to convert the starch and adding the cooked slurry to a cellulosic fiber furnish to provide the papermaking furnish.

18. The method of Claim 1 which further comprises adding the boron-containing compound and the converted starch individually to a cellulosic fiber furnish to provide the papermaking furnish.

19. A method for forming a paper or paperboard comprising: providing a papermaking furnish including cellulosic fibers; forming a fibrous web from the papermaking furnish; drying the web; and sizing the web by applying slurry to the web, the slurry including starch solids and a boron containing compound.

20. The method of Claim 19 further comprising calendering the sized web to provide a finished paper or paperboard.